

MULTICHANNEL ORTHOGONAL FREQUENCY DIVISION
MULTIPLEXED RECEIVERS WITH ANTENNA SELECTION AND
MAXIMUM-RATIO COMBINING AND ASSOCIATED METHODS

5

Abstract of the Disclosure

A reconfigurable multichannel receiver may selectively operate in increased throughput modes and/or increased range modes. In some embodiments, the receiver may select two or more antennas from a plurality of spatially diverse antennas to receive more than one subchannel of a wideband orthogonal frequency division multiplexed (OFDM) channel. Maximum-ratio combining may be performed on corresponding symbol-modulated subcarriers from the two or more antennas, and a single OFDM symbol may be generated from contributions from the subchannels received by the two or more antennas.

10

15 In other embodiments, more than one subchannel of a wideband OFDM channel may be received through a single antenna selected from a plurality of spatially diverse antennas. In other embodiments, a single subchannel may be received by a plurality of spatially diverse antennas and maximum-ratio combining may be performed on corresponding symbol-modulated subcarriers received by the

20 antennas.

"Express Mail" mailing label number: EV 332569233 US

Date of Deposit: December 29, 2003

This paper or fee is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to the Commissioner for Patents, Mail Stop Patent Application, P.O. Box 1450, Alexandria, VA 22313-1450.